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ABSTRACT

The B-K Parental Checklist, a series of statements pertaining to the development and behavior of children, was employed in obtaining information from parents regarding the social and intellectual competencies of their children. Data collected from the parents of a randomly selected group of 1,155 subjects, in each of three age groups (5-9, 10-12, 13-16), judged to be progressing adequately in school, free of significant maladjustment, and within the average range intellectually, were analyzed. Data obtained from the parents of 151 children classified as mentally retarded and 104 children referred for psychological and psychiatric evaluation were also analyzed. Results indicated that, in general, the parents of the "normal" (NM) children tended to perceive their children as more intellectually and socially competent than did the parents of the educably mentally retarded (EMR) and the psychological-psychiatric referrals (PP). The final construction of the instrument will be employed in assessing children referred for screening for mental retardation and/or psychological-psychiatric problems. (Author)

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FINAL REPORT

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AN ANALYSIS OF THE SOCIAL DEVELOPMENT AND BEHAVIOR OF CHILDREN

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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Respectfully submitted,

Mildred R. Buck, Clinical Psychologist
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VALIDATION OF A SOCIAL FUNCTIONING CHECKLIST

FINAL REPORT

1. Problem and Rationale:

In September, 1972, the strictly psychometric method formerly involved in assessing children for classes for mental retardation was discarded in the St. Louis Public School System. Prior to this time a child could be placed in a special class upon recommendation of the principal if he scored below 77 on the 1960 Form LM of the Stanford-Binet Intelligence Scale. Realizing that such a monumental decision as the placement of children in classes for mental retardation based upon a purely psychometric criterion could no longer be tolerated or defended, a battery of tests was instituted. This assessment procedure now includes diagnosis in several areas including:

1. Academic achievement and teacher ratings.
2. Cognitive and sensori-motor abilities.
3. Personality, emotional, social-adjustment, and motivational levels.
4. Neuro-physiological condition.

An exploration of existing testing procedures revealed the need for devising certain instruments which would meet the particular needs of an urban school population. Several tests were developed, and are presently being used on an experimental basis. One such instrument is the B-K[1] Checklist, which parents complete concerning their children's social and emotional behaviors.

This particular type of instrument was constructed in an attempt to ascertain the social functioning of a particular child. It had been noted that while many children appear to be retarded in an academic setting, they function adequately in other social situations. An assessment of the child's functioning outside of school, and an evaluation of his interaction with peers is a necessary portion of any diagnostic procedure used for the classification of a student.

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[1] B-K designates the names of the authors, Mildred Buck and Jane Kennealy, School Psychologists in the St. Louis Public School System.

It is essential that social-cultural characteristics and adaptive behavior be systematically taken into account; and the B-K Checklist has been designed to partially fulfill this task.

II. Objectives:

The objectives of the present research were:

1. To collect and analyse baseline data in order to determine the typical responses to be expected regarding the "normal" child in each age group.
2. To develop a valid instrument which reliably discriminates between "normal" children and children who are mentally retarded or who have psychological-psychiatric problems.
3. To determine whether or not parents would respond reliably to the B-K Checklist. If parents could be shown to be consistent in their responses for varying circumstances, then the B-K Checklist would be considered a dependable source of information. In addition, the time expended in completing this relatively short instrument, independently, could be viewed as a savings in the total time ordinarily spent in the evaluation procedure.

III. Literature Review: Implications For This Project:

A review of the literature relating to behavior problem checklists indicate that most raters have difficulty in agreeing on the problematic behavior of a given child, except when such ratings are undertaken by the parents of the same child and by teachers who are in daily contact with the child (Buck

and Austrin, 1970, 1971; Quay, Sprague, Shulman, and Miller, 1966; Peterson, 1961).

Several studies, using widely differing populations, are similar in that they categorize dimensions of behavior of children in a consistent manner using similar language and concepts (Armentrout, 1971; Dreger, Reid, Lewis, Overlade, Rich, Taffel, Miller, and Fleming, 1964; Quay and Quay, 1965; Ross, Lacey, and Parton, 1965; Spivack and Levine, 1963-1964; Walker, 1967). In numerous studies, Sines (1969) reported three factors or clusters which could be labeled "Aggression", "Inhibition", and "Activity Level". Dreger et al (1964) have described three additional clusters of behaviors which are clinically important: "Sleep Disturbance", "Somatization", and "Sociability". Through the use of the Missouri Children's Behavior Checklist, incorporating these dimensions, Sines found that mothers' ratings could be used to reliably discriminate two groups of clinically different children.

In studies involving the Peterson-Quay Behavior Problem Checklist it has been found that almost identical and independent factors relating to public school children (Peterson, 1961; Quay and Quay, 1965); public school students in classes for the emotionally distrubed (Quay, Morse, and Cutler, 1966) and children seen at a child guidance clinic (Peterson, et al., 1961) could be identified by parents. Three reoccurring dimensions have emerged in these studies which have been termed Conduct Disorder (externalizing, antisocial, acting out symptoms); Personality Disorder, (internalizing, neurotic, anxious - withdrawn symptoms); and Inadequacy - Immaturity. In 1967 an additional scale, Sub-Cultural (socialized) Delinquency was added.

Buck and Austrin (1970, 1971) used successfully the questionnaires and structured interviews developed by the Fels Research Institute to ascertain maternal attitudes toward their children's achievement behaviors. They found that mothers of adequate achievers tended to report fewer negative responses toward their children and to rate their children as more competent than did mothers of underachievers.

Speer (1971) found that parents could reliably and significantly differentiate child patients and non-patients on three factor scales: Conduct Problem, Personality Problem, and Inadequacy - Immaturity. Cowen, et al. (1970) have obtained substantial reliability coefficients and evidence of empirical validity on a set of four measures of parent attitude and parent perception of child behavior. Generally, the parent measures correlated with achievement measures, self-adjustment and sociometric tests, and teachers' and clinicians' ratings of adjustment. Other studies have found similar parental checklists to be equally reliable and valid (Dreger et al, 1964; Peterson, 1961; Ross et al., 1965; Quay and Quay, 1965; Sines, 1969; Walker, 1967).

Few studies (with the exception of Speer, 1971) have reported base-line data concerning the ratings of parents of non-clinic children, or children who might be considered "normal", and free of significant maladjustment. One purpose of this study is to collect base-line data concerning the parents' perception of the behavior of children who have not been referred for psychological and for psychoeducational assessment, and who are judged by teachers to be functioning adequately, both socially and academically. A review of the literature indicates that questionnaires and checklists can be developed to serve this purpose.

IV. Instrumentation: The B-K Checklist:

The B-K Checklist is a series of statements pertaining to perceptions of of behavior and perceived attitudes of parents toward their children's social and emotional behavior. The B-K Checklist is unique in that it consists of three separate forms containing appropriate questions for three different age groups: 5-9, 10-12 and 13-16. Each form[3] consists of sixteen statements concerning the development of children. The parent is asked to consider each statement as it relates to his particular child and to rate the child's behavior accordingly. The Likert-type scale procedure is employed; with the parent asked to place a check mark under Always, Often, Sometimes, Seldom, or Never, indicating the category which best describes his attitude toward the statement. These five positions are given simple weights of 5, 4, 3, 2 and 1 for scoring purposes. (Weights are reversed where necessary with certain items, in order to preserve the direction of scoring) High scores denote adequate social functioning; low scores indicate inadequate social functioning for any particular age group. In addition to completing the checklist, parents are asked to reveal additional information which will help in the assessment of the social functioning of the child.

Another unique feature of the B-K Checklist relates to its briefness when compared with similar instruments. One reason for this is the fact that it has been divided into three sections, with questions in each portion pertaining to a particular age group. The fact that the form is short increases the probability that it will be completed and returned by a parent. In addition it tends to decrease the total assessment time involved with each child.

[3] See Appendix I

V. Procedure:

The procedure employed in the validation of the B-K Checklist included three components. Phase I consisted of the collection of data in order to determine the typical responses of the "normal" child in each age group. During the Fall, 1973, subjects from three different age groups (5-9, 10-12, 13-16) were randomly selected from the total elementary population of approximately 100,000 subjects in the St. Louis Public School System. All of the 1200 children included in the sample had scored within the average range of intelligence as measured by one of the following tests:

1. Lorge-Thorndike Intelligence Test
2. Wechsler Intelligence Scale for Children
3. Stanford Binet Intelligence Test
4. Peabody Picture Vocabulary Test
5. Slossom Intelligence Test

Each child in grades 4 or above had also scored within one year of his grade placement on the reading and arithmetic sections of the Iowa Test of Basic Skills. The Primary Reading Tests for Reading Systems or Open Highways, and the teacher's judgment of adequate skill in arithmetic were used for children in third grade and below. In the judgment of the involved teachers and principals, all children used for the collection of baseline data were considered to be functioning within the normal range socially and emotionally.

The B-K Checklist was mailed to the parents of each of the subjects, and they were asked to respond to each item by indicating the extent of their agreement to statements concerning their child's development and social functioning. Parents were requested to return the checklist in an envelope addressed to the school as soon as it had been completed. Of the 1200 B-K Checklists mailed to parents, 1,155 were returned, (400 - 5-9 age group; 327 - 10-12 age group; and 428 - 13-16 age group).

During Phase II of this research an attempt was made to determine the reli-

ability of the responses given by the parents to the B-K Checklist. The parents of 237 subjects, randomly selected from the total sample of 1,155 were visited in their homes and interviewed. Parents were first asked to complete the B-K Checklist a second time without help or discussion with the social worker. Then each item on the B-K Checklist was reviewed with the parent to determine whether or not the parent understood the item; needed additional interpretation of the instrument or wanted to make additional statements. In addition the questions listed at the bottom of the B-K Checklist were discussed with the parent in order to determine whether there was any discrepancy in understanding, and also whether additional items should be added to the checklist.

The same procedure was undertaken with the parents of a randomly selected group of ten subjects from each of the three age levels within the "psycho-educational" group (PP) and the "mentally retarded" group (EMR). Parents were re-administered the B-K Checklist, and interviewed regarding the results.

After all data had been collected, the results were analyzed. Responses were reviewed to determine baseline data concerning the ratings of the parents of the children included in the "normal" (NM) group.

Responses given by the parents of each group were compared with the responses given by th parents of all other groups to determine whether there were any significant differences between groups. In addition responses given during the first administration of the B-K Checklist were compared with responses given during the second administration. Reliability of the rating scores were tested by calculating pearson-product-moment correlations between the initial and repeated ratings obtained. A chi-square test was used to determine sex differences. Additional information and statements obtained during the interview were reviewed and compiled.

VI. Research Hypotheses:

The research hypotheses were as follows:

1. Parents of children in the normal group would rate their children higher than parents of children in each of the other two groups on B-K checklist items for the three age classes.

   Mean NM > Mean EMR and Mean NM > Mean PP

2. Scores by item provided by parents of children in the "educationally mentally retarded" and psychological-psychiatric group" will differ significantly on all three checklists.

   Mean EMR ≠ Mean PP

3. Interviews conducted by the researchers with a sample of responding parents will provide data to support the validity and reliability of the instruments.

RESULTS

The research hypothesis stating that parents of students in the "normal" group (Group NM) would tend to rate their children higher than would parents of students in the "Mentally Retarded" (Group EMR) and "Psychological-Psychiatric" (Group PP) groups was generally supported by the data from all three age groups. The means listed in Table I show that Group NM, the "Normal" group, had the highest scores in each of the three age brackets.

Group PP had a numerically higher mean than Group EMR on the instruments for the young and middle age classes, but the outcome was reversed in the older age class where the EMR group mean was 3.6 points higher than the PP mean of 51.7. However, since the primary purpose of this project was the development of a checklist which would discriminate among groups in each age bracket, statistical comparisons were conducted at the item level rather than for total scores.

Item comparisons were made between groups on each of the 16 items in each of the three age categories using a one-way ANOVA at the .05 level of significance. For those items in which significant differences were found, Duncan's New Multiple Range Test was used to determine which specific pairs of means differed significantly on the item.

Results of these item analyses showed that 11 of the 16 items on the 5-9 age group instrument discriminated between at least one pair of means. On the 10-12 and 13+ age groups instruments, 10 and 12 items, respectively discriminated between at least one pair of means. Furthermore, on 32 of the 33 discriminating items, the mean for the NM group was numerically the highest and was significantly higher than at least one of the other two means. These item results strongly support the research hypothesis predicting higher means for the NM groups in each of the age categories.

Table 2 provides a summary of the kinds of discriminations made by the items

TABLE I.

Means for Total Scores on the B-K Checklists for Normal, Special Education, and Psychological-Psychiatric groups in each of three age categories.

Age Category	"Normal" (Group NM)	"Mentally Retarded" (Group EMR)	"Psychological-Psychiatric" (Group PP)
Young (5-9)	62.6	56.0	58.6
Middle (10-12)	65.3	60.6	61.3
Older (13+)	61.4	55.3	51.7

TABLE 2.

Classification of items from the checklist for the 5-9 age class according to the specific discriminations made between the NM, EMR, and PP group means.*

A. Mean NM > EMR (No other pairs of means are significantly different at the .05 alpha level.)

Item Number	Item Statement	Means NM	EMR	PP
4.	Can be trusted in the house alone.	4.00	3.39	3.63
7.	Can go to the store and buy at least three items.	4.18	3.64	3.83
	Mean for Category A	4.09	3.52	3.73

B. Mean NM > PP

3.	Can play with children without having temper tantrums.	4.12	3.93	3.63
	Mean for Category B	4.12	3.93	3.63

C. Mean NM > EMR, NM > PP

5.	Knows how to play with his or her toys.	4.73	4.36	4.17
6.	Can use the telephone.	4.30	3.79	3.78
10.	Obeys parents and adults in position of authority.	4.23	3.82	3.52
**16.	Finds it hard to switch from one activity to another.	3.85	3.14	3.37
	Mean for Category C	4.28	3.78	3.71

D. Mean NM > EMR, PP > EMR

12.	Knows day and time of favorite TV program.	4.19	3.36	4.15
15.	Knows the difference between and value of nickel, dime and quarter.	4.23	3.57	4.15
	Mean for Category D	4.21	3.47	4.15

E. Mean NM > EMR, NM > PP, PP > EMR

**9.	Children can take advantage of him (her).	3.31	2.43	2.96
14.	Can follow simple directions.	4.34	3.32	3.85
	Mean for Category E	3.83	2.88	3.41

F. Items which did not discriminate.

1.	Can wash and dress himself (herself).	4.23	4.71	4.70
2.	Moves about the neighborhood alone.	3.35	3.43	3.54
8.	Takes responsibility for some jobs in the house.	3.84	4.00	3.85
**11.	Plays with children younger than himself (herself).	2.53	2.14	2.65
13.	Is not overly friendly with strangers.	2.63	2.96	2.83
	Mean for Category F	3.42	3.45	3.51

*Significant differences were reported at the .05 level.

**Response value was reversed because of negative polarization of the item.

on the instrument completed by parents of the 5 through 9 age group. As shown in category A of this table, items 4 and 7 discriminated between the "normal" and "mentally retarded" groups where the mean for the former group was significantly higher on each item. Though the "normal" means were numerically higher than those of the psychological-psychiatric group, the differences were not significant. Similarly, the PP means were not significantly different from the EMR means, though they were numerically greater on both items.

Categories C and D in this table show that six items discriminated between two pairs of means and category E contains the two items that discriminated between all pairs of means. In each of the 11 discriminating items, we see that the NM mean was the highest numerically and significantly greater than one or both of the other two groups. Results in categories D and E also show that on the four items where the means between the EMR and PP groups differed significantly, the PP mean was always the greater.

When the mean of means for each of the three groups are obtained for each of the discriminating categories (A through E) shown in Table 2, we can combine the results into a graphic profile as shown in Figure I. By observing these profiles we can see that the curves for the NM and EMR means are similar in shape, whereas the PP means form a contrasting curve.

In another item analysis procedure inter-item Pearson correlation coefficients and the coefficient of each item with the total score were determined. Results of this analysis for the 5-9 age group are presented in Table 3. By referring to this table we can determine the degree of association among items which made common discriminations. For example, items 4 and 7 which discriminated between the NM and EMR groups had an inter-item coefficient of .31, which was relatively high.

By comparing coefficients for items 5,6,10 and 16, in which the NM group had a significantly higher mean than each of the other two groups, we see that item 5 has coefficients of .37, .33, and .19 with items 6, 10, and 16, respectively.

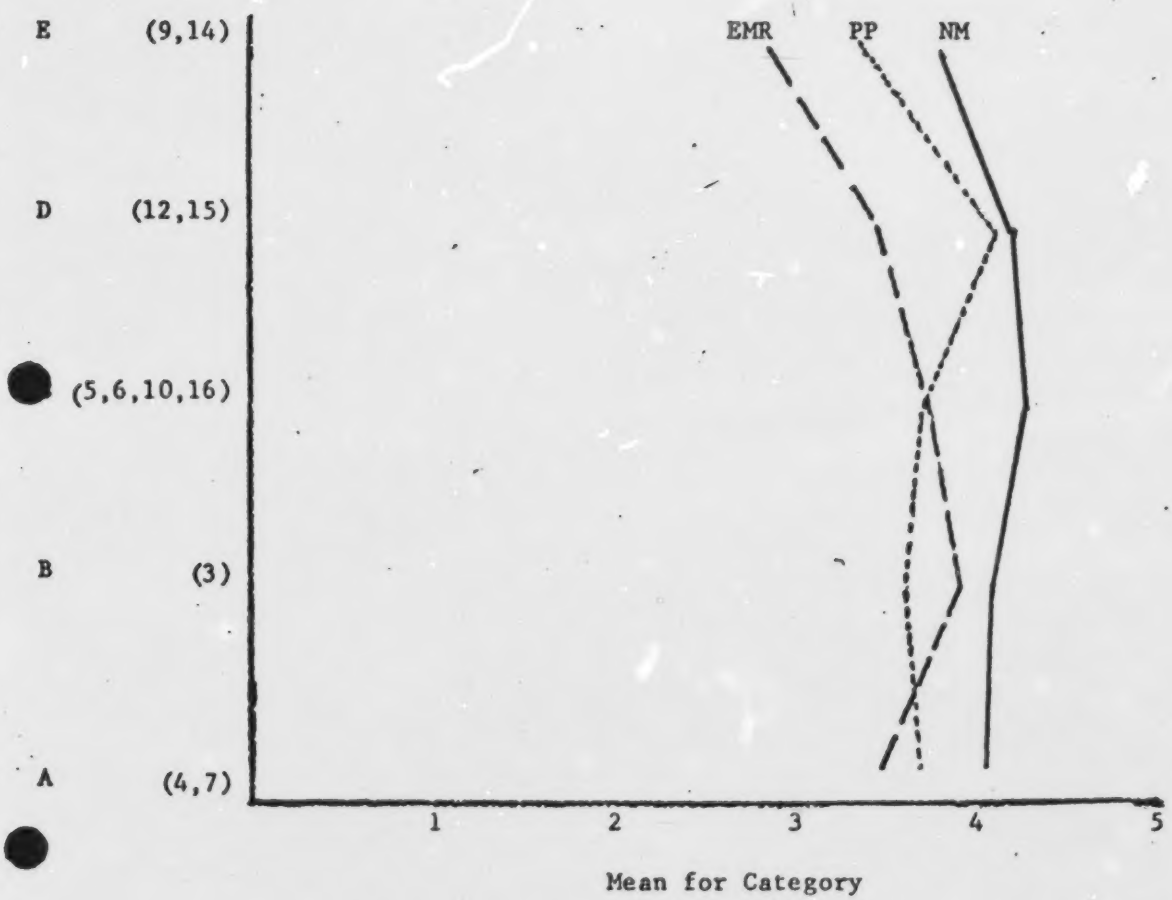

Figure 1. Comparison of means for the NM, EMR, and PP groups for the five categories of discriminating items shown in Table 2.

TABLE 3.

Inter-Item Pearson correlation coefficients (decimal point omitted) for scores of the NM, EMR, and PP groups in the 5-9 age class.*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
1	100	12	17	22	19	26	25	20	10	17	-05	14	00	23	10	13	42
2		100	13	13	04	12	23	02	-01	-11	-04	-02	07	05	15	-08	34
3			100	19	30	24	21	16	05	31	07	14	04	27	14	16	50
4				100	22	29	31	15	-01	19	-09	07	07	23	14	02	49
5					100	37	29	14	11	33	-09	25	-05	38	17	19	52
6						100	37	18	16	15	-02	31	-07	35	28	07	60
7							100	15	08	18	-01	15	01	30	28	08	59
8								100	02	26	-03	15	-07	19	14	13	40
9									100	05	14	20	-16	18	11	26	32
10										100	-12	14	-07	30	17	12	40
11											100	12	-05	-02	05	10	14
12												100	-12	26	30	10	46
13													100	08	-08	-03	14
14														100	28	25	62
15															100	-05	48
16																100	34

*Coefficients of absolute value - 10 are significant at the .01 level.

Item 6 has coefficients of .15 and .07 with items 10 and 16, respectively and the coefficient between items 10 and 16 is .12. These correlations indicate that item 16 has a weak or non-significant association with the other three items which made common discriminations, while items 5, 6, and 10 all show significant but moderate relations with each other.

Similar comparisons with categories D and E (from Table 2) show a coefficient of .30 between items 12 and 15, while items 9 and 14 in category E show a weaker, yet significant, inter-item correlation of .18.

For the non-discriminating items (1, 2, 8, 11 and 13), we see that their associations with other items on the total checklist are relatively weak, non-significant, or negative. This is especially true of items 2, 11, and 13. Also, scores for items 11 and 13 each show the very low coefficient of .14 with the total scores.

In addition to the 16 items contained on the B-K checklist for the age group 5-9, parents responded "Yes" or "No" to item 17 which asked whether their child was late walking or talking. Results for this item are interesting. These results show rather dramatically the higher incidence of late walking or talking among the EMR groups. Parents indicate that over half these students were late in at least one of the two stages of development whereas just over 5% and 15% of the NM and PP students, respectively, suffered such development lags.

An item analysis of the results for the three groups in the middle (10-12) age class (Form 10-12) showed that 5 of the 16 items discriminated between one pair of means, another three items showed significant differences between two pairs, and two items discriminated between all pairs of means. Six items made no discriminations. The kinds of discriminations made and the items making these discriminations are shown in Table 4.

Table 4 indicates that the only categories which contain more than one item are categories A and C with 4 and 3 items, respectively. However, by referring to categories A, C, D, and E we see that on 9 of the 10 discriminating items,

TABLE 4.

Classification of items from the checklist for the 10-12 age class according to the specific discriminations made between the NM, EMR, and PP group means.*

A. Mean NM > EMR (No other pairs of means are significantly different at the .05 alpha level.)

Item Number	Item Statement	Means NM	EMR	PP
4.	Can make decisions concerning use of leisure time.	3.97	3.31	3.61
7.	Uses "common sense" in emergency situations.	3.89	3.54	3.78
** 11.	Other children take advantage of him (her)	3.52	3.06	3.19
14.	Can take care of younger children for short periods of time.	4.24	3.86	4.11
	Mean for Category A	3.91	3.44	3.67

B. Mean NM > PP

10.	Can handle own money.	4.33	4.10	3.94
	Mean for Category B	4.33	4.10	3.94

C. Mean NM > EMR, NM > PP

12.	Can use a shopping list at a store and bring back change.	4.53	4.03	3.97
15.	Other people see him (her) as competent.	4.20	3.61	3.86
16.	Other people see him (her) as trustworthy.	4.50	4.03	4.03
	Mean for Category C	4.41	3.89	3.95

D. Mean NM > EMR, NM > PP, EMR > PP

8.	Can play with a group of children near his (her) own age.	4.64	4.38	4.06
	Mean for Category D	4.64	4.38	4.06

E. Mean NM > EMR, NM > PP, PP > EMR

13.	Can write letters and mail them.	4.27	2.74	3.39
	Mean for Category E	4.27	2.74	3.39

F. Non-discriminating items

1.	Can bathe and dress himself (herself) unassisted.	4.93	4.93	5.00
2.	Takes care of personal belongings.	4.22	4.34	4.00
3.	Takes responsibility for some household tasks.	4.01	4.19	3.97
5.	Can use public transportation unassisted.	2.69	3.15	3.17
6.	Shows anger by talking rather than by fighting and crying.	3.31	3.36	3.28
9.	Can be left at home alone.	4.04	3.94	3.97
	Mean for Category F	3.87	3.99	3.90

*Significant differences were reported at the .05 level.

**Response value was reversed because of negative polarization of the item.

the NM group is significantly higher than the EMR group. Similarly, categories B through E show that the NM group is significantly higher than the PP group on six of the discriminating items.

Reference to categories D and E show that only items 8 and 13 discriminated between the EMR and PP groups. On item 8, dealing with the ability to play with children in their own age group, the mean of 4.38 for the EMR group was significantly higher than that of 4.06 for the PP group. The order of means on item 13, which dealt with the ability to write letters, was reversed with the PP group having a mean of 3.39 to that of 2.74 for the EMR group. The NM group mean was significantly higher than those for the other two groups on both of these items.

A graphic portrayal of the data shown in Table 4 is presented in Figure 2. This figure shows rather dramatically the differences between means for item 13 which discriminated between all pairs of means.

As in the item analysis for Form 5-9 inter-item Pearson correlation coefficients were determined among all items on the Form 10-12. Results are shown in Table 5.

An examination of the coefficients for the four items (4, 7, 11, 14) in category A (from Table 5) indicates that item 11 does not correlate significantly (.01 level) with any of the other three items, since the coefficientswere -.01, .09, and .07 with items 4, 7, and 14, respectively. The coefficients between the other three items were all significant with the highest being .40 between items 4 and 7, and .32 between 7 and 14. Thus, it appears that even though item 11 makes the same discriminations as the other three items in category A, it operates independently of these items on individual responses. In fact, an inspection of Table 5 shows that scores for item 11 do not correlate highly with those of any other item on the entire checklist.

An examination of the items in category C, the only other category containing multiple items, shows that item 12 has coefficients of .28 and .21 with items 15 and 16, respectively. However, the r of .59 between scores on items 15 and 16

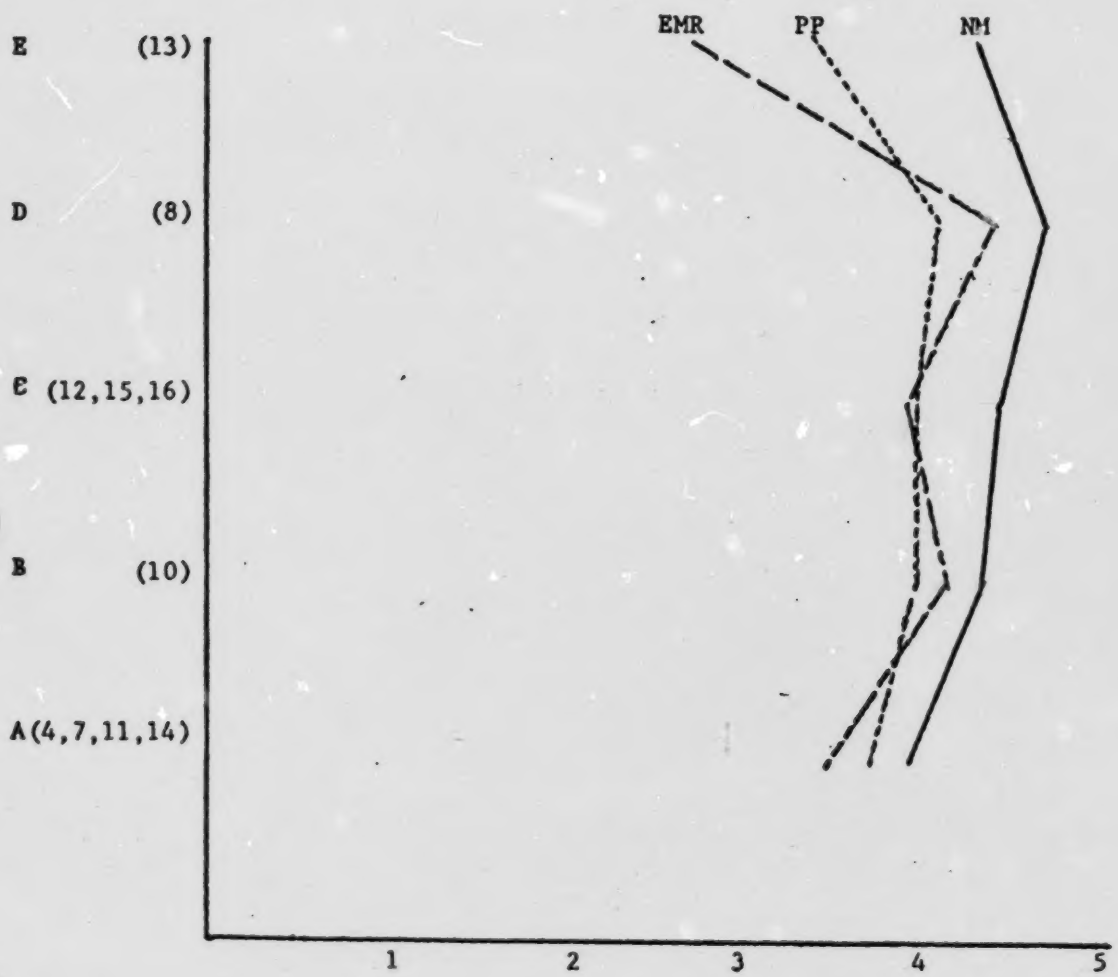

Figure 2. Comparison of means for the NM, EMR, and PP groups for the five categories of discriminating items shown in Table 4.

TABLE 5.

Inter-item Pearson correlation coefficients (decimal point omitted) for scores of the NM, EMR, and PP groups in the 10-12 age class.*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
1	100	19	18	15	13	10	09	08	06	12	10	11	06	12	13	15	27
2		100	44	23	11	15	26	11	14	28	13	19	18	19	21	18	48
3			100	31	19	10	19	12	15	30	07	21	16	22	11	18	48
4				100	15	17	40	26	17	30	-01	23	33	19	38	36	58
5					100	27	28	04	38	15	-07	14	16	24	06	02	47
6						100	18	15	12	16	-04	12	17	16	25	11	41
7							100	22	32	30	09	33	32	32	26	28	62
8								100	16	26	16	17	16	17	20	23	41
9									100	23	05	17	25	34	13	10	52
10										100	20	29	23	20	24	22	56
11											100	09	09	07	04	07	26
12												100	41	29	28	21	54
13													100	31	34	25	59
14														100	36	30	58
15															100	59	56
16																100	51

*Coefficients of absolute value - 10 are significant at the .01 level.

represents the strongest association between any two variables on the middle age checklist, suggesting that those parents who tended to rate their children as being perceived by others as competent also tended to rate them as being perceived by others as trustworthy.

An examination of results for the older age (13+) group shows that all but four of the 16 items discriminate between at least one pair of means. By referring to Table 6, we see that category A consists of item 9 on which the means of 4.09 for the NM group and 3.42 for the EMR group are significantly different. The mean of 3.73 for the PP group does not differ significantly from either of the other two groups.

Categories B and C each contain five items all of which discriminate between two pairs of means, while only item 4, which constitutes category D, discriminates between all pairs of means. It is also noted that item 4 is the only discriminating item on any of the three checklists in which the mean for the NM group is significantly lower than that for one of the other two groups. As footnoted in Table 6, the polarity of scores for item 4 are reversed since playing with younger children always or often would be viewed negatively.

A graphic profile for the means of the three groups in each of the four discriminating categories is presented in Figure 3.

Inter-item correlations are contained in Table 7. By referring to this table we can determine the degree of association among scores for those items in categories B and C of Table 6. Such observations show that in category B, scores for item 11 correlate weakly with scores on all other items except those for item 16 in which a coefficient of .41 was obtained. Other inter-item coefficients among items in this category are generally significant (at the .01 level) but low, except that of .37 between scores on items 14 and 15.

In category C, in which both the NM and EMR group means are higher for each item than those of the PP group, we find all significant correlation coefficients, seven of which are between .19 and .22. The strongest association for this category

TABLE 6.

Classification of items from the checklist for the 13½ age class according to the specific discriminations made between the NM, EMR, and PP group means.*

Item Number	Item Statement	NM	EMR	PP
A.	Mean NM > EMR (No other pairs of means are significantly different at the .05 alpha level.)			
9.	Uses "common sense" in emergency situations.	4.09	3.39	3.63
	Mean for Category A	4.09	3.39	3.63
B.	Mean NM > EMR, NM > PP			
**11.	Other people take advantage of him (her).	3.88	2.81	3.00
13.	Can "baby-sit" with younger children.	4.11	3.40	3.32
14.	Engages in group activities with other "teen-agers."	3.93	3.42	2.95
15.	Can understand complicated directions.	3.57	3.14	2.91
**16.	Is easily led by others.	3.81	3.02	2.86
	Mean for Category B.	3.86	3.16	3.01
C.	Mean NM > PP, EMR > PP			
1.	Takes complete responsibility for personal grooming.	4.51	4.40	3.55
2.	Can plan and schedule the use of his (her) time.	3.92	3.70	3.05
7.	Other people see him(her) as capable and competent.	4.13	3.91	3.45
8.	Can settle arguments without fighting.	3.60	3.47	2.77
10.	Relates well with friends.	4.38	4.37	3.73
	Mean for Category C	4.11	3.97	3.31
D.	Mean PP > NM, PP > EMR, NM > EMR			
**4.	Associates with children younger than himself, (herself)	2.78	2.42	3.32
	Mean for Category	2.78	2.42	3.32
E.	Non-discriminating items.			
3.	Knows the value of money and regulates own spending.	3.98	3.65	3.55
5.	Can use buses to move about the city unassisted.	3.18	3.26	2.82
6.	Reads the newspaper and is interested in current events.	3.23	3.00	2.73
12.	Is interested in earning money outside the home.	4.26	3.95	4.00
	Mean for Category	3.66	3.47	3.28

*Significant differences were reported at the .05 level.

**Response value was reversed because of negative polarization of the item.

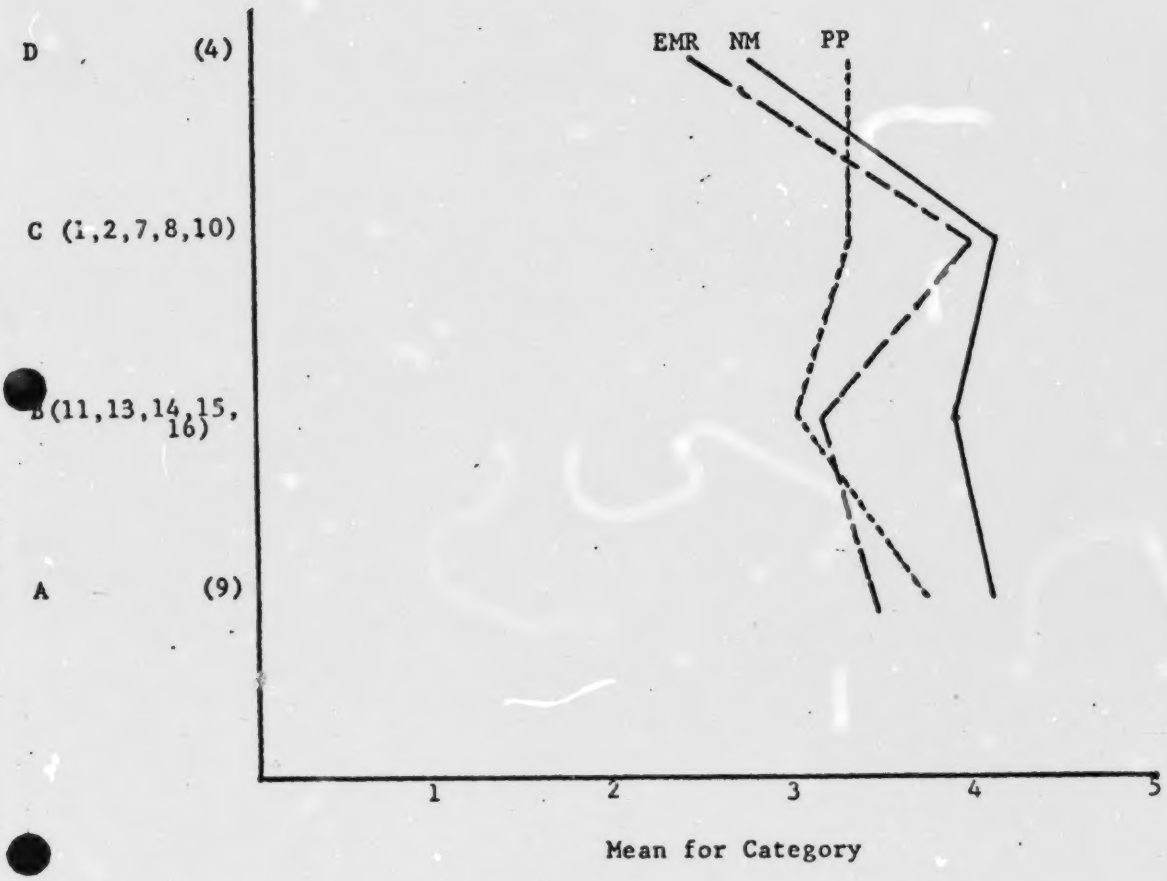

Figure 3. Comparison of means for the NM, EMR, and PP groups for the four categories of discriminating items shown in Table 6.

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are between items 1 and 2 ($r = .45$) and 2 and 7 ($r = .33$).

We also note from this table that scores for item 4, the only item discriminating among all pairs of means, have practically all non-significant correlations with other items on the checklist. Also, the coefficient of .14 between scores on item 4 and the total scores is much smaller than corresponding coefficients for other items.

TABLE 7.

Inter-Item Pearson correlation coefficients (decimal point omitted) for scores of the NM, EMR, and PP groups in the 13+ age class.*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
1	100	45	32	03	17	11	22	19	22	21	17	20	25	19	18	17	51
2		100	45	-07	11	27	33	19	32	20	14	19	24	22	28	24	58
3			100	-03	17	21	29	13	26	10	20	25	21	17	16	24	54
4				100	02	-03	-05	-12	02	-04	10	00	-01	02	03	12	14
5					100	20	20	07	10	-03	12	22	11	19	29	07	45
6						100	21	25	13	09	04	18	14	22	28	20	48
7							100	22	33	21	17	23	19	25	30	24	55
8								100	21	14	02	11	13	15	17	11	38
9									100	24	23	25	30	23	38	26	57
10										100	28	19	26	27	15	10	41
11											100	13	17	11	05	41	44
12												100	26	29	28	07	51
13													100	23	19	16	51
14														100	37	09	53
15															100	16	55
16																100	48

*Coefficients of absolute value - 10 are significant at the .01 level.

RESULTS

CORRELATIONAL ANALYSIS

As part of the validation procedures for the checklists used in this study, two social workers interviewed individually, a subset of parents of children in each of the three age groups who had responded previously to the respective instruments. Interviews were conducted in the home and included parents from the NM, EMR, and PP groups for each of the three age classes, though parents in the NM group comprised approximately 70% of those interviewed.

The parents of the children in each of the three age groups and three categories were asked to respond to the same instrument during the home visit as had been completed two to three months earlier when it was sent home to them by the principals of the respective schools. The social workers were instructed to request that the parent complete the checklist before discussing the various items with them. However, it was impossible to adhere to this procedure under all circumstances.

As part of the analysis of these interview results, correlation coefficients were computed between both total scores and scores for individual items on the first and second administrations of the checklists.

On the checklist for each age class, the coefficients were determined for the NM, EMR, and PP groups individually and for the three groups combined. Results for the 5-9 age group are shown in Table 8.

Results in Table 8 show a range of coefficients for combined groups on individual items from .08 for Item 1 to .60 for Item 17 and a coefficient between total scores of .34. A comparison of coefficients for the individual groups on the same items shows considerable variation in the magnitudes of the coefficients. However, because of the difference in the N's for these groups, it must be noted that the EMR and PP coefficients must be substantially larger to be of significance.

Table 8.

Pearson correlation coefficients between scores for individual items and total scores for the NM, EMR, and PP groups both individually and combined on the pre-post administrations of the B-K Checklist for ages 5-9.

ITEM	All Groups (N = 36)	NM (N = 60)	EMR (N = 15)	PP (N = 11)
1	.08	-.11	.49*	.26
2	.16	.06	.44*	.36
3	.52*	.37*	.83*	.72*
4	.23*	.19	.40	.00
5	.42*	.31*	.50*	.51
6	.35*	.23*	.53*	.58*
7	.45*	.32*	.81*	.60*
8	.14	.04	.33	.31
9	.43*	.17	.79*	.43
10	.29*	.20	.36	.09
11	.26*	.28*	.52*	-.40
12	.20*	.13	.35	-.11
13	.16	.24*	.09	-.03
14	.09	-.05	.00	.13
15	.54*	.47*	.63*	.50
16	.27*	.09	.60*	.18
17	.60*	.48*	.67*	-.15
Total	.34*	.15	.50	.48

* Value is significant at the .05 level

The results for the combined groups by item show that the coefficients for non-discriminating Items 1, 2, 8, 11 and 13 are not significant except for the relatively low value of .26 for Item 11. For those items which did discriminate between at least two pairs of means, the correlation coefficients for the combined groups were significant at the .05 level except for Item 14 (Can follow simple directions) which had a pre-post coefficient of .09. However, as measures of reliability these coefficients were relatively small with the highest ones being .60 and .54 for items 17 and 15, respectively. Thus, the pre scores accounted for no more than 36% of the variance on any of the post scores for corresponding items. In fact, pre-scores on discriminating Items 4, 10, 12, and 16 accounted for less than 10% of variation on corresponding post scores. An examination of individual group coefficients for these latter four items shows 11 of the 12 coefficients to be non-significant with the value of .60 for the EMR group on Item 16 being the only significant pre-post relation.

On Items 3, 5, 6, 7, 9 and 15 which had relatively higher pre-post correlations, the coefficients for the NM group were consistently lower than those for the other two groups. In general, the magnitude of coefficients for the EMR group were considerably higher than those for the other two groups.

Results for comparisons of pre-post ratings by parents of students in the 10-12 age class are shown in Table 9. Though 10 of the 16 coefficients for the combined groups are significant at the .05 level, the highest value was .40 between pre-post scores on Item 8, thus accounting for 16% of the post score variance on this item. The correlation between pre and post total scores was also .40.

Coefficients for the NM, EMR, and PP groups individually were generally of low magnitude and most were not significant at the .05 level.

Results from parents of students in the 13+ age class, shown in Table 10, have similarly low coefficients with the highest for combined groups being

Table 9.

Pearson correlation coefficients between scores for individual items and total scores for the NM, EMR, and PP groups both individually and combined on the pre-post administrations of the B-K Checklist for ages 10-12.

	GROUP			
ITEM	All Groups (N = 112)	NM (N = 81)	EMR (N = 21)	PP (N = 10)
1	-.03	-.02	-.13	**
2	.08	.07	.27	-.39
3	.21*	.28*	-.05	.74*
4	.13	.16	.05	.03
5	.36*	.27*	.44*	.29
6	.15	.21*	.08	.61*
7	.28*	.31*	.28	-.36
8	.40*	.07	.27	.75*
9	.37*	.29*	.43*	.73*
10	.22*	.26*	.08	.45
11	.37*	.53*	.05	-.10
12	-.03	-.03	-.03	.00
13	.30*	.18*	.30	.10
14	.31*	.18*	.63*	.26
15	.28*	.23*	.09	.44
16	.12	.19*	-.23	-.07
Total	.40*	.33*	.48*	.40

* Significant at .05 level

** Correlation coefficient cannot be computed because of no variance in one set of scores.

Table 10.

Pearson correlation coefficients between scores for individual items and total scores for the NM, EMR, and PP groups both individually and combined on the pre-post administrations of the B-K Checklist for age 13+.

	GROUP			
ITEM	All Groups (N = 133)	NM (N = 96)	EMR (N=27)	PP (N = 10)
1	.29*	.14	.16	.65*
2	.34*	.24*	.20	.64*
3	.35*	.26*	.33*	.72*
4	.33*	.26*	.23	.80*
5	.36*	.30*	.36*	.88*
6	.30*	.35*	.13	.78*
7	.19*	.04	.12	.50
8	.14*	.12	.20	-.06
9	.44*	.18*	.41*	.89*
10	.32*	.13	.29	.88*
11	.41*	.23*	.42*	.85*
12	.20*	.24*	-.08	.49
13	.30*	.14	.24	.80*
14	.35*	.11	.46*	.59*
15	.26*	.18*	.17	.49
16	.21*	.05	.19	.49
Total	.42*	.30*	.13	.63*

* Significant at .05 level

.44 for Item 9. Coefficients for the NM and EMR groups were similarly of low magnitude with none exceeding the value of .46 for the EMR group on Item 14. However, despite the small N of 10 subjects in the PP group, coefficients were relatively high with a median value of .69. The correlation for total pre-post scores of the PP group was .63.

It is obvious that the correlations between scores on the first and second administration of the checklist cannot be viewed as positive indications of the reliability of the measures. However, one can only speculate at this point as to whether the items are actually of low reliability or whether the methods used to obtain the pre or post scores were such that low correlations could be expected.

The time lapse between the pre and post administrations of the checkiist could have confounded the results since the students may have actually changed in competency during that period of time. It is also questionable what effect the presence of the social worker might have had on the parents' responses during the second administration of the checklist. As mentioned earlier, although interviewers were instructed to administer the instrument at the beginning of the visit, supplementary reports indicated that it was often not socially or psychologically possible or feasible to administer the checklist until considerable discussion had transpired.

Another factor which may have had a depressing effect on the correlation coefficients was the heavy influence of the relatively homogeneous NM group. As shown in Tables 9 through 11, the parents of the NM group constituted about 70% of the interviewed parents.

Though the pre-post results strongly dictate the need to obtain subsequent reliability measures on the instrument, and to improve the methods of obtaining these measures, it must be recognized that the inclusion of interviews in the design was primarily intended as a means of clinical feedback on the instruments and validation of the checklists' items.

RESULTS

ANALYSIS OF SEX DIFFERENCES

After selecting the samples for the three groups in each of the three age classes, it became apparent that the number of males and females were not proportionately distributed among the three groups in some categories. To confirm these apparent disproportions, a chi square test was conducted for each age class to determine whether sex was independent of group membership.

In addition to these tests of independence, differences between means for males and females in the NM group were compared by item in each age class using t tests.

The number of students by sex for each group in each age class are shown in Table 11. Results of the chi square tests showed values of 25.99, 38.20, and 4.30 for the young, middle and old age classes, respectively. With two degrees of freedom the values for the 5-9 and 10-12 age class are significant at the .001 level indicating that the sex of the students was not independent of group membership in these two age classes. Observation of the sex distribution for the young and middle age groups shows that the proportion of males in the PP group is especially high with percentages of 83% and 94% respectively.

In the 13+ age class, the numbers of males and females are numerically less disproportionate and the chi square value of 4.30 is not significant at the .10 level.

The t tests of differences between the means for males and females of the NM group in the 5-9 age class resulted in significant differences on three of the sixteen items as shown in Table 12. On item 2 (moves about the neighborhood alone), the parents of males in the NM group rated their children a mean value

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Table 11.

Distribution of Students by Sex for the NM, EMR, and PP groups in each of the three age classes.

		M	F	Total
AGES 5-9	NM	177	223	400
	EMR	17	11	28
	PP	38	8	46
	Total	232	242	474
AGES 10-12	NM	132	195	327
	EMR	39	41	80
	PP	34	2	36
	Total	205	238	443
AGES 13+	NM	198	230	428
	EMR	27	16	43
	PP	11	11	22
	Total	236	257	493

Table 12.

Differences between means for males and females on the B-K checklist for the NM group in the 5-9 age class.

Item	MEANS Male N=177	Female N=223	Difference M - F
1	4.78	4.70	.08
2	3.55	3.18	.37 *
3	4.05	4.17	-.12
4	3.97	4.02	-.05
5	4.71	4.74	-.03
6	4.16	4.40	-.24 *
7	4.21	4.15	.06
8	3.77	3.89	-.12
9	3.40	3.24	.16
10	4.10	4.33	-.23 *
11	2.51	2.55	-.04
12	4.27	4.13	.14
13	2.73	2.55	.18
14	4.33	4.34	-.01
15	4.18	4.27	-.09
16	3.88	3.84	.04
	62.60	62.50	.10

* Significant at the .05 level

of 3.55 which was .37 higher than the mean from parents of females in this group. On items 6 (can use the telephone) and 10 (obeys parents and adults in position of authority) the means for females were higher by .24 and .23 points respectively.

Reference to earlier results shows that only two (6 and 10) of the three items in which the means for males and females were significantly different discriminated between the NM, EMR, and PP groups. For both items the NM mean was significantly higher than the EMR and PP means, but the magnitude of differences was more than twice the difference between males and females within the NM group.

Results for the NM group, in the 10-12 age class showed even fewer differences between males and females with the significant difference being that for item 13 (can write letters and mail them) in which the 4.39 mean for females was .30 points higher than that for males. Though this item did discriminate among the NM, EMR, and PP groups, again these group differences were much greater than that between males and females in the NM group. Means for males and females in this age class are shown in Table 14.

In the 13+ age class, the results for six items showed significant differences between means for males and females. As shown in Table 14, males had significantly higher means on items 4 (associates with children younger than himself/herself) and 5 (can use buses to move about the city unassisted) by .25 and .37 points, respectively. On items 7 (other people see him/her as capable and competent), 9 (can use "common sense" in emergency situations), 13 (can "baby sit" with younger children), and 16 (is easily led by others), the means for females were significantly higher. The difference of .60 on item 13 was the largest difference between any pair of means comparing males and females.

Of the six items for which males and females differed significantly, each item except item 5 discriminated between at least one pair of means for the NM,

Table 13.

Differences between means for males and females on the B-K checklist for the NM group in the 10-12 age class.

MEANS

Item	Male N=132	Female N=195	Difference M - F	
1	4.95	4.92	.03	
2	4.27	4.18	.09	
3	4.06	3.96	.10	
4	4.08	3.88	.20	
5	2.80	2.62	.18	
6	3.27	3.33	-.06	
7	3.95	3.85	.10	
8	4.63	4.65	-.02	
9	4.05	4.04	.01	
10	4.35	4.31	.04	
11	3.53	3.52	.01	
12	4.45	4.58	-.13	
13	4.09	4.39	-.30	*
14	4.11	4.32	-.21	
15	4.14	4.23	-.09	
16	4.50	4.51	-.01	
	65.23	65.29	-.06	

* Significant at .05 level

Table 14.

Differences between means for males and females on the B-K checklist for the NM group in the 13+ age class.

Item	Male N=198	Female N=230	Difference M-F
	MEANS		
1	4.45	4.57	-.12
2	3.84	3.98	-.14
3	3.97	3.99	-.02
4	2.91	2.66	.25 *
5	3.38	3.01	.37 *
6	3.29	3.17	.12
7	4.03	4.21	-.18 *
8	3.53	3.66	-.13
9	4.00	4.17	-.17 *
10	4.39	4.37	.02
11	3.78	3.96	-.18
12	4.24	4.28	-.04
13	3.79	4.39	-.60 *
14	4.03	3.85	.18
15	3.61	3.53	.08
16	3.67	3.93	-.26
	60.91	61.73	-.82

* Significant at the .05 level

EMR, and PP groups.

Discussion:

The main purpose in testing for differences in means for males and females in the NM groups was to determine whether some items were discriminating between the NM, EMR, and PP groups because of differences in the proportion of males and females in these groups rather than because of the characteristics for which they were assigned to the three groups. The results of these analyses seem to indicate that the sex of the student is not a major factor within the NM groups in the 5-9 and 10-12 age classes where means for males and females were significantly different on three and one items, respectively. Of the three items on the checklist for ages 5-9 in which males and females differed, only two of these items discriminated between the NM, EMR, and PP groups and the differences between groups was much greater than could be accounted for by sex. The latter was also true on the one item in which the sexes differed significantly on the checklist for 10-12 year olds.

Though the checklist for the 13+ age group had the greatest number of items on which the NM group responded differently by sex, it was also noted that the distribution of students by sex within the three groups was more proportionate than in the younger age classes. Thus, it seems unlikely that the item discriminations made between the three groups can be attributed to the sexual composition of the groups. Also, with the exception of one item (#13), the magnitude of differences between males and females on discriminating items was considerably smaller than those between groups.

In the case of item 13 (can "baby-sit" with younger children) where parents rated females higher by .60 points, it is probable that the term "baby-sit" had a biasing effect since baby-sitting has traditionally been more commonly associated with girls.

Though it seems generally true that sex was not a major factor in the discriminations made among groups by most items, it must be recognized that the

ultimate use of these instruments will be to discriminate among individuals. Thus, it will be necessary to control for or adjust the scores on those items in which sex is a significant variable. Also, in this study the analysis of differences associated with the sex of students in the NM groups was limited. There is also a need to determine whether students in the EMR and PP groups differ by sex, but the relatively low number of students, especially females, in these groups seemed inadequate for analysis.

DISCUSSION

I. Item Analyses

A perusal of the item analyses concerning the instrument employed with the 5 to 9 age group (henceforth designated Form 5-9) indicates that parental responses on certain items were significantly different regarding children classified as "normal" (NM), "psychological-psychiatric referrals" (PP) and "mentally retarded" (EMR). The parents of the NMs tended to rate their children higher on item 4 ("Can be trusted in the house alone"), and item 7 ("Can go to the store and buy at least three items"), than did the parents of the EMRs. While means were numerically higher on these two items for the NMs than they were for the PPs, they were not significantly higher; nor did the PPs differ significantly from the EMRs regarding these competencies.

Parental responses suggest that both NMs and EMRs tend to be significantly more capable of playing with other children without displaying temper tantrums than are the PPs. This finding is in the expected direction since it is the "acting out" behavior manifested by the PPs which is most likely to result in referral for psychological-psychiatric assessment.

Responses obtained from parents to Form 5-9 suggested that children classified as "normal" (NM) tended to know how to play with their toys (Item 5); Use the telephone (Item 6); obey authority figures (Item 10); and switch activities smooth-16 (Item 16), more often than did children classified as either PP or EMR.

Results from Category D (See Table 2) suggest that both NMs and PPs were more likely to know the day and time of their favorite television program (Item 12) and to know the differences in the values of coins (Item 15). Results from Category E suggest that while NMs were less likely to be taken advantage of by other children; and more likely to be able to follow simple directions than were both EMRs and PPs, the PPs were rated higher concerning these items than were the EMRs; thus indicating that the PPs tended to be more like the "normals" in these respects than did the EMRs.

Item 17 was particularly significant in discriminating between the various categories within the 5-9 age group (See Table 4). Parents of the EMRs recognized a definite developmental lag in their children's ability to walk and talk as compared with the other two groups.

Item analyses revealed that Items 1, 2, 8, 11, 13 on Form 5-9 did not discriminate between the various groups and therefore should be discarded from this instrument, or modified. The comments obtained from the parents by the social workers during the reliability study supported this finding. (See section concerning the parental interviews).

In general, it appears that the parents of children (age 5-9) classified as "normal" perceived their children as more competent than did the parents of the children classified as "educably mentally retarded" (EMR) or "psychological-psychiatric referrals" (PP). Items suggesting emotional involvements tended to discriminate between the PPs and the other two groups; while EMRs tended to rank lower on items suggesting some academic involvement.

Regarding the 10-12 age group, an analysis of the items on Form 10-12 indicated that children categorized as "normals" (NM) tended to be better able to make decisions (Item 4); use "common sense" in emergency situations (Item 7); less likely to allow other children to take advantage of them (Item 11); and more likely to be able to take care of younger children for short periods of time (Item 14); than were children categorized as "psychological-psychiatric referrals " (PP) or as "educable mentally retarded" (EMR). See Table 4. In like manner, parents of NMs tended to rate their children as more capable of handling money (Item 10); better able to use a shopping list at the store (Item 12); and as being perceived by others as more competent (Item 15) and trustworthy (Item 16), than did the parents of PPs and EMRs. In addition the parents of NMs were more likely to feel that their children could play with other children near their own age group and could write and mail letters than were the parents of the other two groups.

Statistical analysis revealed that the NMs were significantly more competent regarding the information presented above on items 4, 7, 11, 14, 12, 15, 16, 8 and 13; while only moderately more competent in these entities than were the PPs. However, on item 10, regarding the handling of money the NMs were significantly better than the PPs, while only moderately more capable in this regard than the EMRs.

It is interesting to note that only items 8 and 13 discriminated between the EMR and PP groups. Responses suggested that parents of EMRs perceived their children as better able to play with children in their own age group than did parents of PPs. Contrarily, parents of PPs rated their children as significantly more competent in writing and mailing letters than did the parents of the EMRs.

As with the 5-9 age group, the parents of the NMs, in general, tended to perceive their children as more competent and better adjusted than did the parents of the PPs and EMRs.

An analysis of the responses of parents of the 13+ age group indicated that parents of children categorized as "normals" (NM) tended to perceive their children as more competent in most areas than did parents of children categorized as"educable mentally retarded" (EMR) and as psychological-psychiatric referrals (PP).

The parents of normals rated their children as more likely to take complete responsibility for personal grooming (Item I); better able to plan and schedule the use of their time (Item 2); more likely to be perceived by others as competent (Item 7); better able to settle arguments without fighting (Item 8); and related better with friends, (Item 10), than did the parents of PPs. EMRs were found to be rated significantly higher in the above areas than were the PPs also.

Both NMs and PPs in the 13+ age group were found to be rated significantly higher by their parents in ability to use "common sense" in emergency situations (Item 9) than were EMRs. Thus this area of comprehension may be found to be significant in differentiating mentally retarded children in this age group from their peers in other categories.

NMs were found to be rated significantly higher by their parents than both EMRs and PPs concerning allowing others to take advantage of them (Item 11); competency in "baby-sitting" with younger children (Item 13); ability to engage in group activities (Item 14); ability to understand complicated directions (Item 15); and tendency not to be easily led by others (Item 16).

Item 4, dealing with the child's tendency to associate with children younger than himself, proved to be useful in discriminating between the various groups. The parents of the EMRs perceived them as more likely to play with children younger than themselves than did the parents of the other two groups. (Note reversal in scoring for this item). This finding was expected from a review of the literature. However, the finding that the PPs were the least likely of the three groups of children is interesting and might be related to the greater difficulty which these children experience in relating with other people in general. This particular item gave the parents a great deal of trouble (See section on remarks by social workers.) in responding, and perhaps should be deleted or reworded.

Items 3, 5, 6, and 12 (See Form 13+ in Appendix I) tended not to discriminate between the various groups. The parents of most of the students in all 3 groups indicated that their children were interested in earning money (Item 12); and that they usually knew the value of money (Item 3). These items could be retained in the final draft of the checklist, since a negative response to either of these items would be extremely significant in assessing individual cases.

An analysis of the comments made by parents concerning Item 6 suggested that this item should be reworded to include viewing newscasts on television, since many parents indicated that they could no longer afford to purchase newspapers, and therefore their children did not have an opportunity to manifest their interest in current events. Item 5 was considered by parents to be an inappropriate item since few children were allowed to roam freely about the city because of the danger involved.

In general, an analyses of the items on the three forms of the B-K Checklist supported the usefulness of this instrument with parents in assessing the competencies of their children.

II. Analysis of Open-Ended Section

An important section of each B-K Checklist form included the following open-ended statements:

1. List your child's interests and hobbies.
2. List those things your child does well.
3. List those things with which your child needs help.
4. Please put any additional comments on reverse side.

An analysis of parental responses to this section will be used in the final construction of the B-K Parental Checklist. At least limited responses were given to the first three statements by approximately 60% of the parents of "normal"children; 42% of the parents of children designated as educable mentally retarded, and 37% of the parents of children classified as psychological-psychiatric referrals. Few parents (approximately 5%) availed themselves of the opportunity to give additional information.

The data obtained in response to these statements were not viewed as having refined diagnostic value as far as discrimination between the three groups was concerned. Rather, in individual cases, the data collected were of clinical interest and value, and provided useful insights regarding the parent's perceptions of his child.

While the responses given by the parents of the "normal" children in all three age levels were similar, an interesting pattern was noted. In responding to the unstructured portion of the checklist, specificity increased with the age of the child in areas such as athletic interests, working with their hands, household activities, etc. For example, parents of all three groups listed sports and/or outdoor activities as the primary interest of their children. However, while in

the 5-9 age group "ball" was listed most often as the most enjoyable sport, in the 13+ age group parents were more specific in listing baseball, volleyball, soccer, and football, as the sports most frequently enjoyed by their children. In addition, an increasing variety and complexity of activities were listed as the children grew older. For example, ball and bicycling were the activities listed as enjoyed most by the 5-9 year olds; baseball, skating and swimming as enjoyed most by children 13+. While sports were a major area of interest in all age groups, a trend toward an increase in team play, as well as an increase in continued interest in more individualized skills were evident.

In general the parents of the "normal" children tended to list more strengths than did the parents of the children of either the psychological-psychiatric referrals or the parents of the educable mentally retarded children. The parents of the mentally retarded children tended to list a larger number of weaknesses than did either the PPs or the NMs with the majority dealing with academic and social competencies. The PPs listed a greater number of weaknesses than did the NMs, with the majority of the items revolving around interpersonal relationships and "acting out" behavior. The parents of the EMRs tended to perceive their children as much more docile than did the parents of the PPs and/or "normal" children.

Academic interests, notably reading, were listed for all age groups under strengths, and were usually also listed as a hobby or interest. Other hobbies frequently listed were dancing, playing musical instruments, crafts, sports, fishing, caring for pets and going to the movies. Cleavage by sex was revealed in the listing of hobbies and interests. Handicrafts, dancing lessons, playing with dolls, reading, playing school, and baby-sitting were listed most often for the girls; while athletic activities, building car and airplane models, fishing, scouting, camping and karate were listed most often for the boys.

Helping with household chores was a leading competency that the parents of both NMs and EMRs saw in their children. This finding was not as often mentioned by the parents of the PPs as a strength.

Self-discipline, getting along with others, difficulties in the various aca-

demic areas, speech and communication skills were listed often as areas in which children in all groups needed help. These entities were seldom listed as strengths by parents of either group of children.

No significant differences were noted by the social workers (See section on interviews.), who visited the homes in order to interview the parents of the NMs, PPs and EMRs in responses given to either of the three statements regarding hobbies and interests and strengths and weaknesses. In both experimental settings parents tended to make similar statements regarding what their children did well and in which areas their children were more likely to need help.

A review of comments made by parents, social workers, teacher, psychologists and others involved in the construction of the B-K Parental Checklist indicates that the format of the open-ended section should be changed to a brief, categorized, developmental checklist. Separate headings would be provided for hobbies and interests, strengths and weaknesses. With the addition in each area of an "other" category, the feeling tone and the non-directed parental input, could be retained. Thus, the extremely important facets of information about the child which is often not obtained by directed response, plus the necessary developmental data, could be made available for the assessment procedure.

III. Results of Parental Interviews

An attempt was made to assess the degree of reliability and validity of the responses given by the parents to the B-K Parental Checklist during Phase II of this research. Qualified social workers[3] visited the homes of the subjects and interviewed their parents after they had completed the answering of the checklist. Responses given to the second administration were compared with responses given during the first administration to determine the level of reliability attained. (See section on reliability of instruments.)

The social workers reviewed with the parent each item on the B-K Checklist to determine why particular responses were given. The open-ended statements at

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[3]Special thanks is extended to Mrs. Elizabeth Brown and Mr. Charles Leake for the extensive interviewing procedure undertaken for this research.

the bottom of the checklist were discussed with the parent in order to determine whether there were any discrepancies in the acceptance and understanding of them. Information obtained from the parents during this phase will be used in constructing the final B-K Parental Checklist.

In general, parents were accepting of the home visit, interview, and second assessment procedure. They usually adopted a cooperative stance following the introduction of the interviewer and an explanation of the reason for such a survey. Many seemed to feel that the visit denoted a special recognition for their child. However, a few parents became rather sensitive, and suspicious, and were reluctant to participate. They expressed concern about the possibility that their child had been singled out for special consideration which might lead to placement in some type of special educational setting. Those parents who could not understand the reason for the visit, who felt that their privacy was being invaded, or who required assistance in choosing the appropriate answer, often became defensive and hesitant in giving information. Under such circumstances a great deal more effort was expended in order to assist them in understanding and appreciating the justification for such a survey.

A significant number of parents questioned the "face" validity of some of the items on the B-K Parental Checklist. For example, concerning all three instruments, some parents interpreted the items relating to personal grooming and hygiene as referring to their child in a derogatory manner. Most of the parents perceived their children as functioning at least as well as their friends and siblings in this area; and thus were rather lenient in rating them.

The items on the instruments regarding free movement around neighborhoods provoked a great deal of discussion. Many parents, especially those of the younger group, felt that the degree of safety characteristic of their neighborhood was a more important factor influencing the free movement of their child than was the child's individual competency. Most of the parents of the normal

children felt that their children would be able to move freely around the neighborhood if they were allowed to do so.

Concerning the use of the telephone, some parents of the younger children indicated that while their child could answer the telephone, either appropriately or non-appropriately, they seldom if ever attempted to dial a number. Many parents concluded that the use of the telephone depended upon the age of the child, his associates, and his interests, rather than his ability or inability to do so.

The items concerning playing with children younger than themselves elicited comments from parents regarding the ages of other children in the family and in the neighborhood as limiting and determining the choice of associates. Occasionally a parent would say that his child preferred to play with older children. In the instance of some children especially those among the educable mentally retarded group, parents stated that their child felt more comfortable when playing with children younger than themselves.

Regarding some of the items which failed to discriminate, it appeared that the wording of the item detracted from its validity. Examples include items 8 and 13 on the instrument for young children. On item 8, the use of the word "some" in "Takes responsibility for some jobs in the house" probably contributed to a more homogenous set of responses than might have been elicited without the qualifier. Similarly, on Item 13, the word "not" in the statement "Is not overly friendly with strangers" seemed to result in some confusion among respondents.

Many parents appeared to feel somewhat threatened regarding responding to the open-ended questions, probably due to inexperience in this regard, fear of misspelling words and poor grammar, and general apprehension related to the instrument. In the final construction of the instruments much of this information will be gathered from a checklist, which will make it easier and more convenient for parents to respond.

All of the above information will be taken into consideration in the final

construction of the B-K Parental Checklist. Thus, a clinical approach and evaluation of results will be employed for purposes of revising the existing instruments. Using more sophisticated statistical procedures in analyzing the results to seek the optimal way of using the three checklists for discrimination among students seems premature at this time.

The B-K Parental Checklist developed as a result of this study will be included in a battery of tests employed in the assessment of children referred for screening for various educational settings in St. Louis. In addition, it is suggested that the Checklist might be used in other educational settings with a similar urban school population.

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Appendix I

Instruments Used in Study

ST. LOUIS PUBLIC SCHOOLS
Division of Pupil Personnel Services
1520 South Grand Avenue
St. Louis, Missouri 63104

FORM 5-9

Date _____

Dear _____:

Please complete the checklist below concerning _____. This will help us understand your child and plan for the best educational procedures for him.

PLEASE CHECK EITHER 5-Always; 4-Often; 3-Sometimes; 2-Seldom; 1-Never; for each of the following items:

	Always 5	Often 4	Sometimes 3	Seldom 2	Never 1
1. Can wash and dress himself,(herself).					
2. Moves about the neighborhood alone.					
3. Can play with children without having temper tantrums					
4. Can be trusted in the house alone.					
5. Knows how to play with his (her) toys.					
6. Can use the telephone.					
7. Can go to the store and buy at least three items.					
8. Takes responsibility for some jobs in the house.					
9. Children can take advantage of him (her).					
10. Obeys parents and adults in position of authority.					
11. Plays with children younger than himself (herself).					
12. Knows day and time of favorite TV program.					
13. Is not overly friendly with strangers.					
14. Can follow simple directions.					
15. Knows the difference between and value of nickel, dime and quarter.					
16. Finds it hard to switch from one activity to another.					
17. Was late walking and/or talking.	Yes ☐		No ☐		

1. List your child's interests and hobbies.

2. List those things your child does well.

BEST COPY AVAILABLE

3. List those things with which your child needs help.

4. Please put any additional comments on reverse side.

ST. LOUIS PUBLIC SCHOOLS
Division of Pupil Personnel Services
1520 South Grand Avenue
St. Louis, Missouri 63104

FORM 10-12

Date _____

Dear _____:

Please complete the checklist below concerning _____. This will help us understand your child and plan for the best educational procedures for him.

PLEASE CHECK EITHER 5-Always; 4-Often; 3-Sometimes; 2-Seldom; 1-Never; for each of the following items:

	Always 5	Often 4	Sometimes 3	Seldom 2	Never 1
1. Can bathe and dress himself (herself) unassisted.					
2. Takes care of personal belongings.					
3. Takes responsibility for some household tasks.					
4. Can make decisions concerning use of leisure time.					
5. Can use public transportation unassisted.					
6. Shows anger by talking rather than by fighting and crying.					
7. Uses "common sense" in emergency situations.					
8. Can play with a group of children near his (her) own age.					
9. Can be left at home alone.					
10. Can handle own money.					
11. Other children take advantage of him (her).					
12. Can use a shopping list at a store and bring back change.					
13. Can write letters and mail them.					
14. Can take care of younger children for short periods of time.					
15. Other people see him(her) as competent.					
16. Other people see him(her) as trustworthy.					

1. List your child's interests and hobbies.

BEST COPY AVAILABLE

2. List those things your child does well.

3. List those things with which your child needs help.

ST. LOUIS PUBLIC SCHOOLS
Division of Pupil Personnel Services
1520 South Grand Avenue
St. Louis, Missouri 63104

FORM 13+

Date _____

Dear _____:

Please complete the checklist below concerning _____. This will help us understand your child and plan for the best educational procedures for him.

PLEASE CHECK EITHER 5-Always; 4-Often; 3-Sometimes; 2-Seldom; 1-Never; for each of the following items:

	Always 5	Often 4	Sometimes 3	Seldom 2	Never 1
1. Takes complete responsibility for personal grooming.					
2. Can plan and schedule the use of his(her) time.					
3. Knows the value of money and regulates own spending.					
4. Associates with children younger than himself.(herself).					
5. Can use buses to move about the city unassisted.					
6. Reads the newspaper and is interested in current events.					
7. Other people see him(her) as capable and competent.					
8. Can settle arguments without fighting.					
9. Uses "common sense" in emergency situations.					
10. Relates well with friends.					
11. Other people take advantage of him(her).					
12. Is interested in earning money outside the home.					
13. Can "baby-sit" with younger children.					
14. Engages in group activities with other "teen-agers."					
15. Can understand complicated directions.					
16. Is easily led by others.					

1. List your child's interests and hobbies.

BEST COPY AVAILABLE

2. List those things your child does well.

3. List those things with which your child needs help.

4. Please put any additional comments on reverse side.

Appendix II

Population Used in Study

Appendix II

Number of Students in each group by sex and age.

	F	M	Total	Age Group
	223	177	400	5-9
NM	195	132	327	10-12
	230	198	428	13+
	648	507	1155	
	11	17	28	5-9
EMR	41	39	80	10-12
	16	27	43	13+
	68	83	151	
	8	38	46	5-9
PP	2	34	36	10-12
	11	11	22	13+
	21	83	104	

Total Number of Subjects in Study - 1410